Investigating the impact of Data Monitoring Committee recommendations on the probability of trial success

Supplementary material: exploration of other information fractions

Luca Rondano¹, Gaëlle Saint-Hilary^{2,1}, Mauro Gasparini¹, Stefano Vezzoli³

1 No early stop for efficacy

 PoS_{post} , PoS, $P(early\ stop\ for\ efficacy)$ and $P(no\ early\ stop)$ as functions of θ_{fut} for three different priors and varying infromation fractions when there is no stopping rule for efficacy.

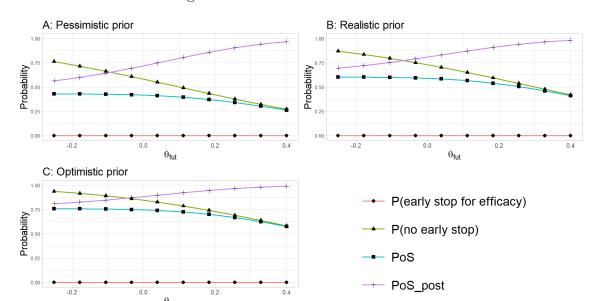


Figure 1: Information fraction = 20%

¹Politecnico di Torino, Italy

²Saryga, France

³Chiesi Farmaceutici, Italy

Figure 2: Information fraction = 30%

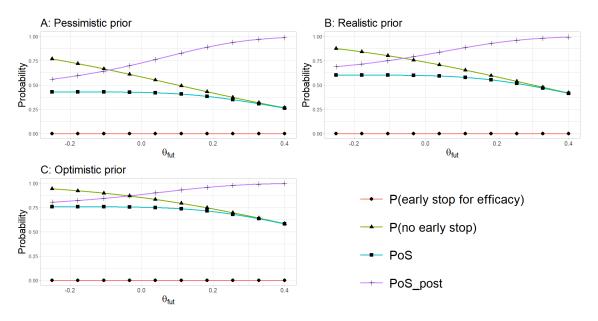


Figure 3: Information fraction = 40%

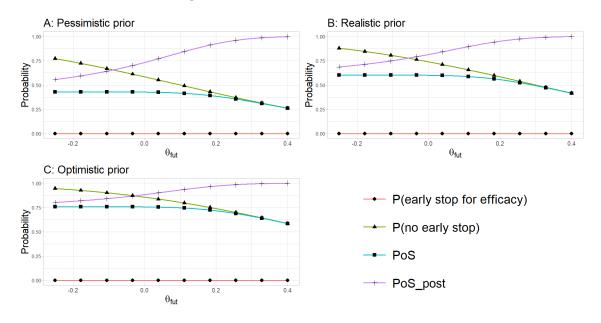


Figure 4: Information fraction = 50%

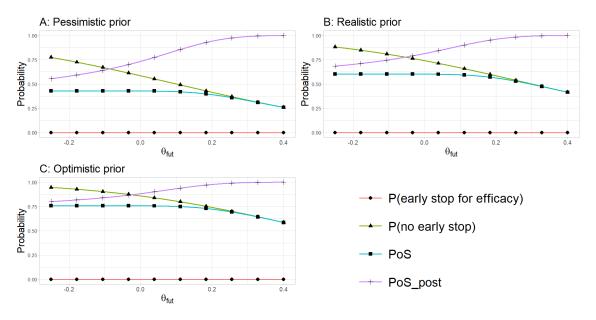


Figure 5: Information fraction = 60%

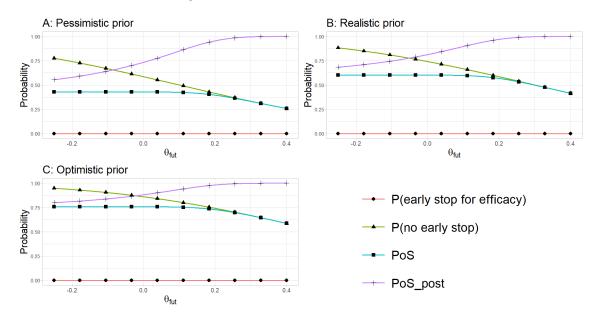


Figure 6: Information fraction = 70%

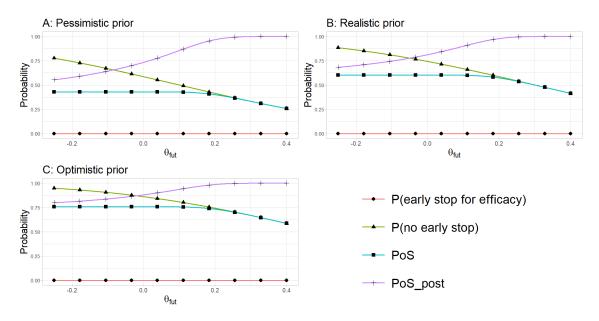
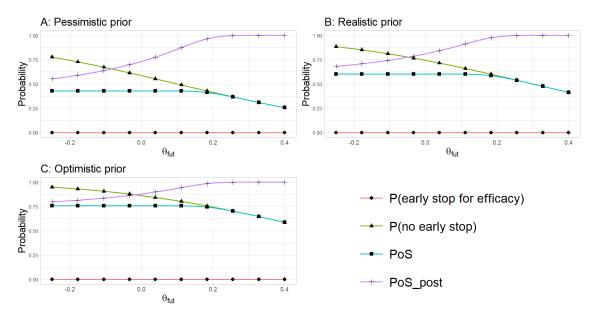


Figure 7: Information fraction = 80%



2 O'Brien-Fleming efficacy boundary

 PoS_{post} , PoS, $P(early\ stop\ for\ efficacy)$ and $P(no\ early\ stop)$ as functions of θ_{fut} for three different priors and varying infromation fractions when an O'Brien-Fleming efficacy boundary (vertical dashed line) is used.

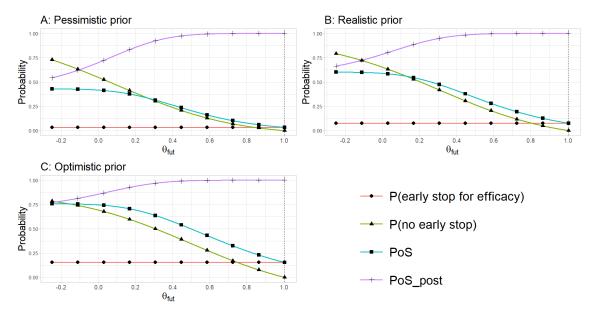


Figure 8: Information fraction = 20%



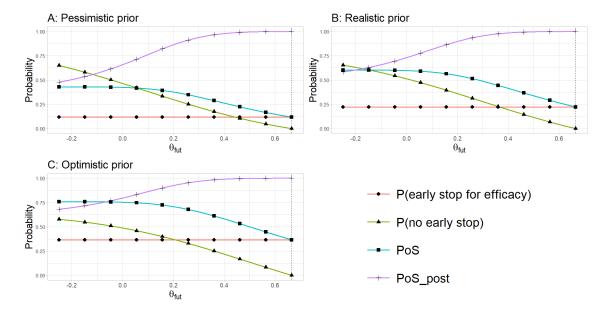


Figure 10: Information fraction = 40%

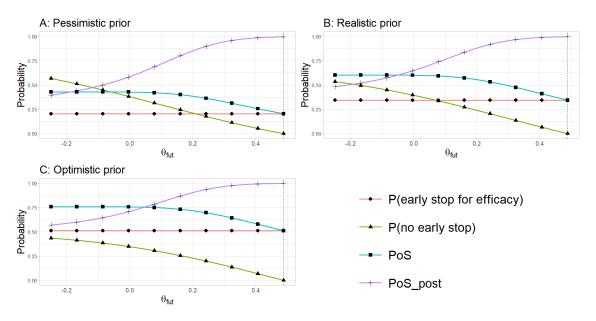


Figure 11: Information fraction = 50%

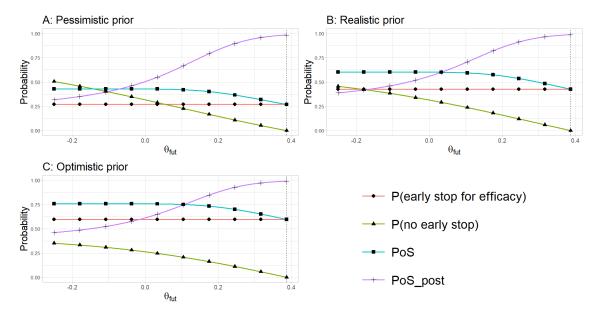


Figure 12: Information fraction = 60%

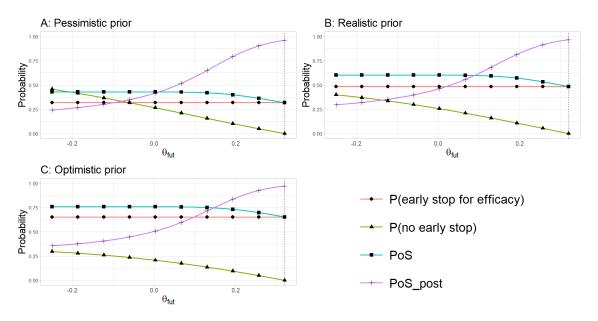
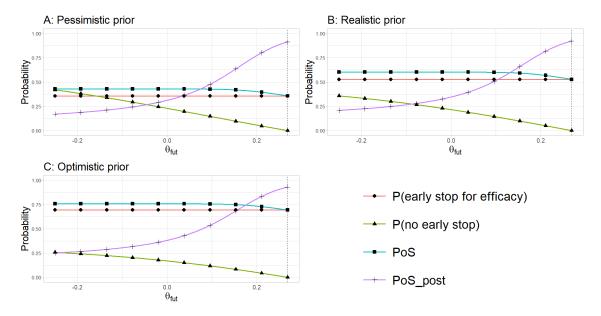


Figure 13: Information fraction = 70%



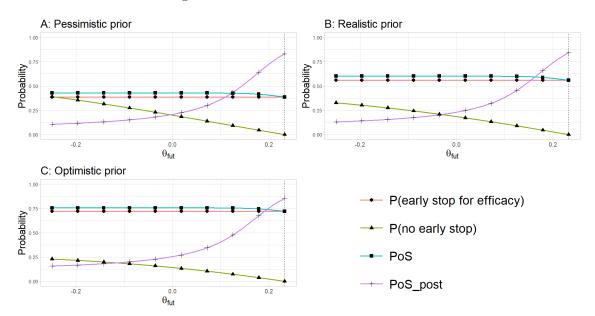


Figure 14: Information fraction = 80%

3 Pocock efficacy boundary

 PoS_{post} , PoS, $P(early\ stop\ for\ efficacy)$ and $P(no\ early\ stop)$ as functions of θ_{fut} for three different priors and varying infromation fractions when a Pocock efficacy boundary (vertical dashed line) is used.

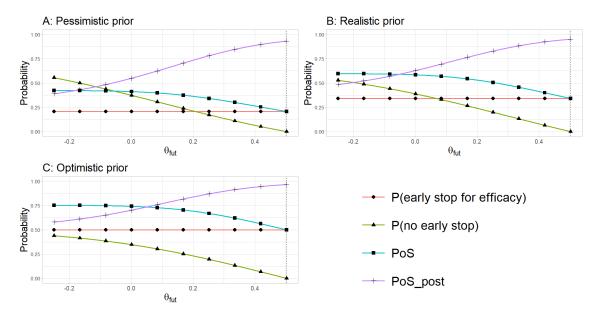


Figure 15: Information fraction = 20%

Figure 16: Information fraction = 30%

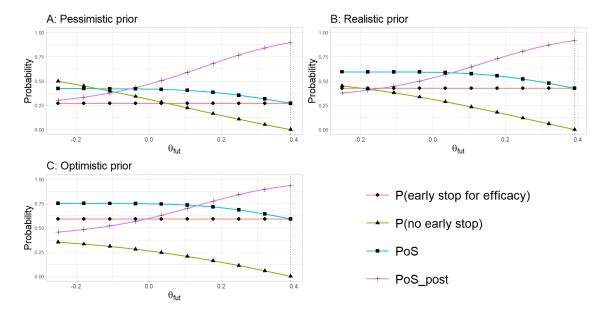


Figure 17: Information fraction = 40%

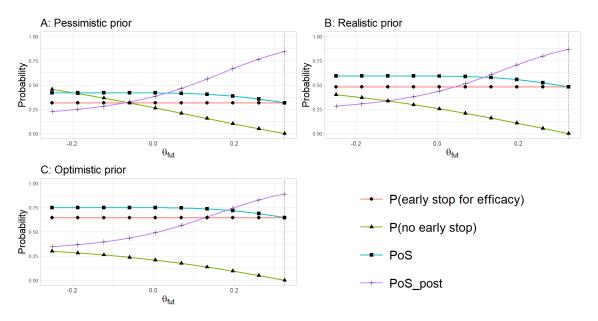
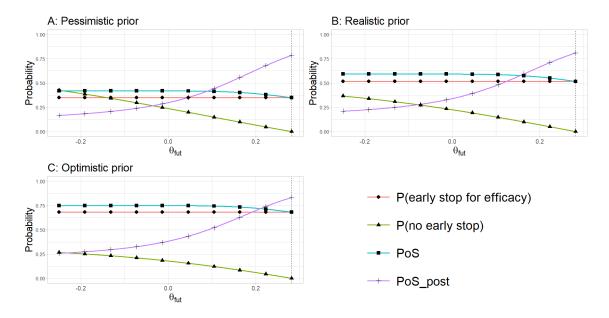


Figure 18: Information fraction = 50%



A: Pessimistic prior

B: Realistic prior

A: Pessimistic prior

A: Pessimistic prior

B: Realistic prior

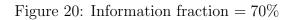
A: Pessimistic prior

A: P

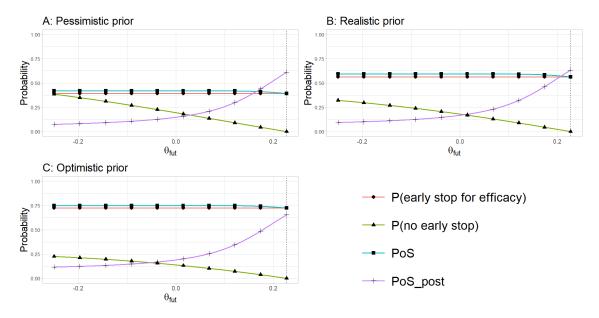
0.2

PoS_post

Figure 19: Information fraction = 60%



 $\overset{\text{0.0}}{\theta_{\text{fut}}}$



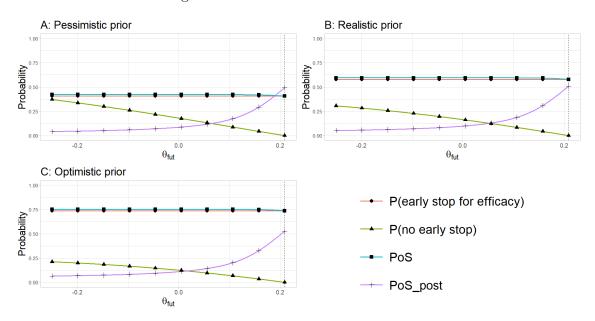


Figure 21: Information fraction = 80%